

Listing of Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-20. (Cancelled)

21. (New) A medical packaging substrate comprising a polymer-impregnated paper-based web, said polymer-impregnated paper-based web being saturated with a saturant comprising a polymer emulsion having a glass transition temperature of -20°C or less, said saturant being present at an add-on level of from about 20 to about 80 dry parts per 100 dry parts of fiber in said polymer-impregnated paper-based web, wherein said polymer-impregnated paper-based web has a percent bacterial efficiency of at least about 95%.

22. (New) The medical packaging substrate of claim 21, wherein said polymer emulsion has a glass transition temperature of about -29°C or less.

23. (New) The medical packaging substrate of claim 21, wherein said polymer emulsion has a glass transition temperature of about -43°C or less.

24. (New) The medical packaging substrate of claim 21, wherein said polymer emulsion has a glass transition temperature of about -60°C or less.

25. (New) The medical packaging substrate of claim 21, wherein said saturant is present at an add-on level of from about 20 to about 70 dry parts per 100 dry parts of fiber in said polymer-impregnated paper-based web.

26. (New) The medical packaging substrate of claim 21, wherein said saturant is present at an add-on level of from about 20 to about 60 dry parts per 100 dry parts of fiber in said polymer-impregnated paper-based web.

27. (New) The medical packaging substrate of claim 21, wherein said saturant is present at an add-on level of from about 30 to about 50 dry parts per 100 dry parts of fiber in said polymer-impregnated paper-based web.

28. (New) The medical packaging substrate of claim 21, wherein said polymer emulsion comprises from about 60 to about 100 percent, on a dry weight basis, of said saturant.

29. (New) The medical packaging substrate of claim 21, wherein said polymer emulsion comprises a polyacrylate.

30. (New) The medical packaging substrate of claim 21, wherein said polymer emulsion comprises a blend of a polyacrylate and a polymer that is not a polyacrylate.

31. (New) The medical packaging substrate of claim 21, wherein said saturant comprises an additional polymer emulsion.

32. (New) The medical packaging substrate of claim 31, wherein said additional polymer emulsion has a glass transition temperature of -20°C or less.

33. (New) The medical packaging substrate of claim 31, wherein said additional polymer emulsion has a glass transition temperature of about -29°C or less.

34. (New) The medical packaging substrate of claim 31, wherein said additional polymer emulsion has a glass transition temperature of about -43°C or less.

35. (New) The medical packaging substrate of claim 31, wherein said additional polymer emulsion has a glass transition temperature of about -60°C or less.

36. (New) A medical packaging substrate comprising a polymer-impregnated paper-based web, said polymer-impregnated paper-based web having a Gurley Hill porosity of greater than about 15 sec/100 cc, said polymer-impregnated paper-based web being saturated with a saturant comprising a polymer emulsion having a glass transition temperature of -20°C or less, said saturant being present at an add-on level of from about 20 to about 70 dry parts per 100 dry parts of fiber in said polymer-impregnated paper-based web, and wherein said polymer-impregnated paper-based web exhibits a %BFE of at least about 95%.

37. (New) A medical packaging substrate comprising a polymer-impregnated paper-based web, said polymer-impregnated paper-based web having a Gurley Hill porosity of greater than about 15 sec/100 cc, said polymer-impregnated paper-based web being saturated with a saturant comprising a polymer emulsion having a glass transition temperature of -20°C or less, said saturant being present at an add-on level of from about 20 to about 70 dry parts per 100 dry parts of fiber in said polymer-impregnated paper-based web, and wherein said polymer-impregnated paper-based web exhibits a %BFE of at least about 98%.

38. (New) A medical packaging substrate according to claim 37, wherein said polymer-impregnated paper-based web exhibits a %BFE of at least about 99%.

39. (New) A medical packaging substrate comprising a polymer-impregnated paper-based web, said polymer-impregnated paper-based web having a Gurley Hill

porosity of greater than about 15 sec/100 cc, said polymer-impregnated paper-based web being saturated with a saturant comprising at least two polymer emulsions, wherein at least one of said polymer emulsions has a glass transition temperature of -20°C or less, said saturant being present at an add-on level of from about 20 to about 70 dry parts per 100 dry parts of fiber in said polymer-impregnated paper-based web, and wherein said polymer-impregnated paper-based web exhibits a %BFE of at least about 98%.

40. (New) The medical packaging substrate of claim 39, wherein one of said at least two polymer emulsions has a glass transition temperature of about -43°C or less.

41. (New) The medical packaging substrate of claim 40, wherein both of said at least two polymer emulsions have a glass transition temperature of about -43°C or less.